

PATENT ABSTRACTS OF JAPAN

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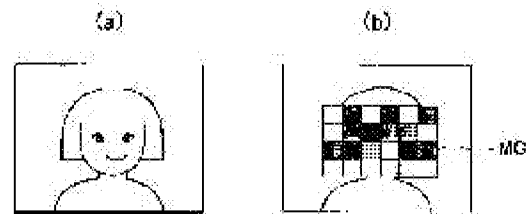
(21)Application number : 2001-277554 (71)Applicant : KONICA CORP
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(54) ELECTRONIC EQUIPMENT HAVING PHOTOGRAPHING FUNCTION, AND IMAGE PROCESSING SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a camera which inhibits an image that a user does not desire from being displayed.

SOLUTION: Image data obtained by photography right after a processing mode button 17 is operated are partially masaiced if a proper password is inputted before the image is displayed by an image display device 9, so when the image is displayed on the basis of the image data, the part which is not masaiced is also displayed and then a user can estimate what the original image is from the remaining part, so that the image can easily be confirmed while the privacy is protected.



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Notes:

1. Untranslatable words are replaced with asterisks (****).
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Application number: Application for patent 2001-277554

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The following ****

[Translation done.]

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Notes:

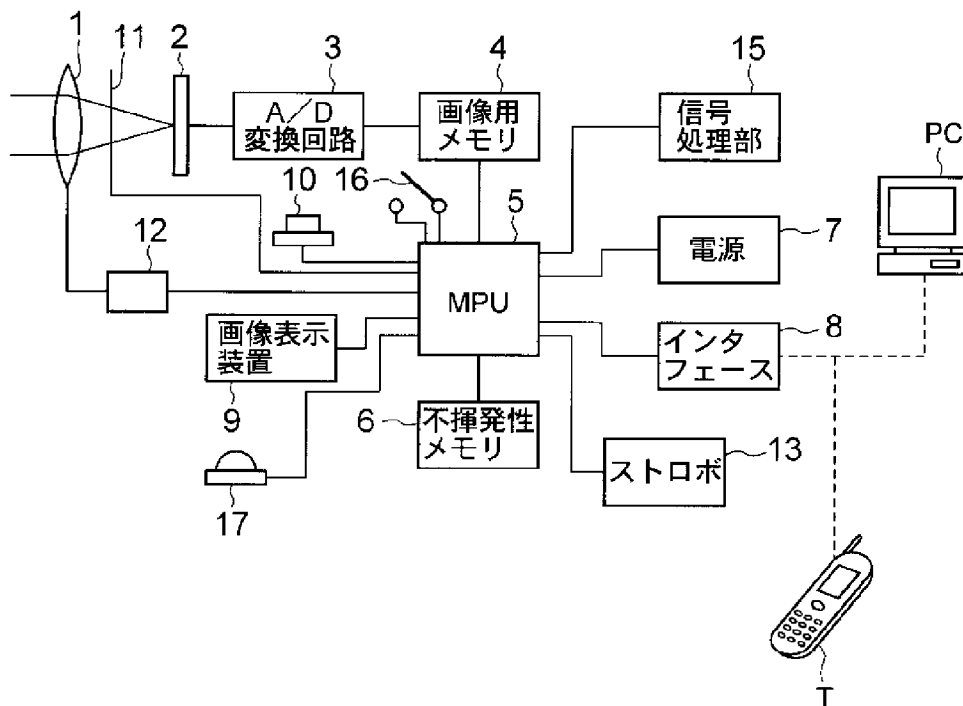
1. Untranslatable words are replaced with asterisks (*).
2. Texts in the figures are not translated and shown as it is.

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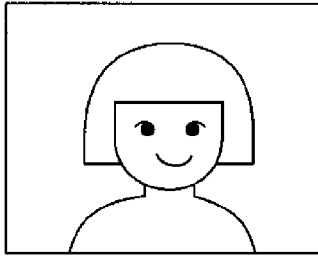
[Document Name] Drawings

[Drawing 1]

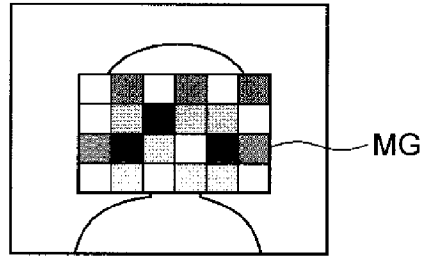


[Drawing 2]

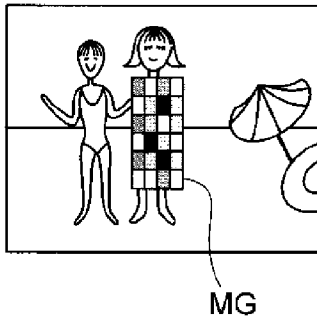
(a)



(b)







[Drawing 3]



[Drawing 4]

初期画面

パスワード	<input type="text"/>	
パターン	<input checked="" type="radio"/> モザイク <input type="radio"/> 低解像度 <input type="radio"/> 置換 <input type="radio"/> ぼかし <input type="radio"/> エンボス	
領域	<input checked="" type="radio"/> 	<input type="radio"/> 
	<input type="radio"/> 	<input type="radio"/> 

[Drawing 5]

メモリのデータ構造

パスワード情報 (1)
パスワード情報 (2)
パスワード情報 (3)
パターンデータ
パターン領域・ 位置データ
出力形式
ヘッダ
画像データ (1)
ヘッダ
画像データ (2)
ヘッダ
画像データ (3)

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[Document Name] Description

[Title of the Invention] The electric device and image processing system which have a photography function

[Claim(s)]

[Claim 1] A photography means to change an optical image into image data, and a memory means to memorize the image data from said photography means, A specification means to specify desired image data out of the image data memorized by said memory means, An input means to input the attestation information about the image data specified with said specification means, When reading the image data specified with said specification means from a memory means and said attestation information is not inputted by said input means The electric device equipped with the photography function characterized by having the Image Processing Division means which was made to perform predetermined Image Processing Division so that a part of picture based on said image data might be displayed unlike the picture based on the original image data.

[Claim 2] A photography means to change an optical image into image data, and a memory means to memorize the image data from said photography means, A specification means to specify desired image data out of the image data memorized by said memory means, An input means to input the attestation information about the image data specified with said specification means, A distinction means to distinguish the specific color in said picture when displaying the picture based on said image data read from said memory means, When reading the image data specified with said specification means from a memory means and said attestation information is not inputted by said input means The electric device equipped with the photography function characterized by having the Image Processing Division means which was made to perform predetermined Image Processing Division so that the circumference containing the portion of said specific color in the picture based on said image data might be displayed unlike the picture based on the original image data.

[Claim 3] The electric device equipped with the photography function according to claim 1 or 2 characterized by having a display means to display the picture based on the image data which performed predetermined Image Processing Division by said Image Processing Division means.

[Claim 4] The electric device which was equipped with a discernment means to identify the coincidence/disagreement of said attestation information inputted with said input means, and was equipped with the photography function given in any of 3 they are from Claim 1 to which it is characterized by performing said predetermined Image Processing Division also when said attestation information of said Image Processing Division means is inharmonious.

[Claim 5] The electric device equipped with the photography function given in any of 4 they are from Claim 1 which has an output means to output said image data to which predetermined Image Processing Division was performed by said Image Processing Division means to external processing apparatus.

[Claim 6] The electric device which equipped any of 5 with the photography function of the description from Claim 1 characterized by said predetermined Image Processing Division being in any of mosaic processing, low resolution processing, substitution processing, shading-off processing, and emboss processing processing.

[Claim 7] The electric device equipped with the photography function according to claim 3 characterized by warning when said display means displays the image data to which said predetermined Image Processing Division was performed.

[Claim 8] The electric device equipped with the photography function according to claim 4 characterized by not performing said predetermined Image Processing Division when said attestation information is in agreement with said discernment means.

[Claim 9] Make it not give attestation information to the image data which is not specified with said specification means among the image data memorized by said memory means, and [said Image Processing Division means] The electric device equipped with the photography function given in any of 8 they are from Claim 1 characterized by not performing said predetermined Image Processing Division when the image data to which attestation information is not given is read from said memory means.

[Claim 10] A photography means to change an optical image into image data, and a memory means to memorize the image data from said photography means, A specification means to specify desired image data out of the image data memorized by said memory means, The processed data for performing predetermined Image Processing Division so that it may match with the image data specified by said specification means and a part of picture based on said image data may be displayed unlike the picture based on the original image data, While receiving image data from the camera which has a transmitting means to transmit the original image data according to either of two or more transmitting modes, and said camera Are the external processing apparatus which has the Image Processing Division function, and the image processing system ** constituted, and [the transmitting means of said camera] When the 1st transmitting mode is set up, said image data before Image Processing Division, The image processing system characterized by transmitting the image data after Image Processing Division to said external processing apparatus when data required for Image Processing Division is transmitted to said external processing

apparatus and the 2nd transmitting mode is set up.

[Claim 11] An input means by which said external processing apparatus inputs the attestation information about the image data specified with said specification means, When it has a discernment means to identify the coincidence/disagreement of said attestation information inputted with said input means and said attestation information is in agreement The image processing system according to claim 10 characterized by performing external processing after performing Image Processing Division for said image data before Image Processing Division transmitted in said 1st transmitting mode based on data required for Image Processing Division.

[Claim 12] A photography means to change an optical image into image data, and a memory means to memorize the image data from said photography means, A specification means to specify desired image data out of the image data memorized by said memory means, The processed data for performing predetermined Image Processing Division so that it may match with the image data specified by said specification means and a part of picture based on said image data may be displayed unlike the picture based on the original image data, While receiving image data from the camera which has the means of communication which transmits the original image data according to either of two or more transmitting modes, and said camera Are the external processing apparatus which has the Image Processing Division function, and the image processing system ** constituted, and [the means of communication of said camera] [communicating with said external processing apparatus] before transmitting image data to said external processing apparatus [a part of picture based on said image data] when said attestation information is not inputted to said external processing apparatus [if it judges that it has the attestation processing capability which can perform predetermined Image Processing Division so that it may be displayed unlike the picture based on the original image data, will transmit said image data before Image Processing Division, and data required for Image Processing Division to said external processing apparatus, but] The image processing system which will be characterized by transmitting the image data after Image Processing Division to said external processing apparatus if it judges that said external processing apparatus does not have said attestation processing capability.

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to electronic **** and an image processing system equipped with the photography function in which especially different Image Processing Division for a display about a specific picture can be performed.

[0002]

[Description of the Prior Art] In the digital camera which is a kind of the camera which came to be used, the image data acquired by photography is memorized to a memory

card etc., and it has become what has good user-friendliness that a picture can be displayed with an LCD monitor based on the image data read from there if needed etc. in recent years.

[0003] By the way, using a digital camera about by two or more persons is also considered. [those who received the digital camera loaded with the memory card] when in this case it precedes and the photography person's photoed image data is accumulated in the memory card Read the image data which there is no consent of a previous photography person and was memorized, and An LCD monitor, Since it can display on the display of TV connected through external I/F of a digital camera, and a personal computer, or connects with a printer (these are named generically and it is called external processing apparatus) and can print, there is a problem that a previous photography person's privacy is not protected. This problem is similarly generated, when using only a memory card about. Furthermore, if it will be expected that the storage capacity of the memory (memory card ****) built in a near future digital camera becomes huge if it carries out from development of information and communication technology in recent years, and it becomes so, the problem mentioned above will become more remarkable from the image data acquired by photography being memorizable to an inexhaustible supply.

[0004] Before delivering a digital camera as opposed to such a problem, it can consider that a previous photography person makes his image data taken a photograph transmit to storage apparatus, such as a hard disk of a personal computer. However, since the time and time and effort for making image data transmit are needed, such work cannot always be done. Moreover, deleting, if image data is unnecessary was also considered, and although the inspection of the picture by a third party becomes impossible by that cause, when it deletes accidentally, a risk of saying that it becomes impossible to peruse eternally is conceived.

[0005] Moreover, there is a mobile tool with which the camera was built in the Personal Digital Assistant with communication functions, such as PDA, etc. Since this takes in picture information with a camera on real time also during movement and can transmit data immediately, it is very convenient for Speed-izing of communication of information. However, if a convenient function also responds to the priority of the contents of data, there is a situation which must be treated carefully. For example, in the picture globally exhibited through the Internet etc., when the proprietary information in connection with the confidentiality of information of a company, the brand by which specification was carried out without notice to the owner, the trademark, etc. are contained, it causes disadvantageous profit of a company etc. and is not desirable to exhibit this picture as it is. Moreover, when ***** people's face etc. is contained in the picture photoed even when the scenery of a town etc. was photoed, it is not infringing on individual privacy or prudent handling is required. However, on the other hand, in order to give a partner information promptly and quickly, when images, such as a picture, are used well, there is the actual condition of being effective.

[0006]

[Problem(s) to be Solved by the Invention] On the other hand, in the conventional

technology, unless it matches image data with the photography person ID, it memorizes it and the photography person ID is inputted, the digital camera which forbade image display is also known. While being able to peruse the image data concerning possession of the person in inputting the photography person ID according to this digital camera, protection of privacy can be aimed at by forbidding a third party's inspection. However, in this digital camera, since the display of the whole picture will be forbidden, when a part of picture has a problem, there is a problem of it becoming impossible to also acquire the remaining information.

[0007] Moreover, in the method of specifying the image data concerning a picture forbidding an inspection one by one, and forbidding an inspection, supposing it is inefficient and performs it at the time of photography, there is also a possibility of missing a photo opportunity.

[0008] Furthermore, the data taken into the camera is once taken out to the personal computer side to transmit quickly the image data immediately taken into the camera, and give the other party information correctly efficiently. If it must be processed one by one with the Image Processing Division software etc., there is a problem that the quick nature of communication of information is not securable.

[0009] This invention is made in view of the problem of this conventional technology, and aims at offering electronic **** and an image processing system equipped with the photography function to forbid the display of a picture which a user does not desire.

[0010]

[Means for Solving the Problem] [the electric device equipped with the photography function of the 1st this invention] A photography means to change an optical image into image data, and a memory means to memorize the image data from said photography means, A specification means to specify desired image data out of the image data memorized by said memory means, An input means to input the attestation information about the image data specified with said specification means, When reading the image data specified with said specification means from a memory means and said attestation information is not inputted by said input means Since it has the Image Processing Division means which was made to perform predetermined Image Processing Division so that a part of picture based on said image data may be displayed unlike the picture based on the original image data Since Image Processing Division, such as a mosaic, is performed to image data so that it may be displayed unlike the picture based on the original image data for example, unless said attestation information is inputted, even if those who do not know said attestation information are going to peruse a picture, Although this visitor can peruse only the picture corresponding to the image data given [mosaic] but can plan confidentiality, privacy protection, etc., those who do not know the part, then said attestation information on a picture for the field which gives a mosaic etc. can also peruse the other picture. Furthermore, if said attestation information is known, the picture which is not given [mosaic] can be perused. Here, although an "electric device" means a thing like a digital still camera, for example, it is not restricted to it but the cellular phone equipped with the photography means etc. is contained. Moreover, all things that can be attested, such as a pattern of a user's besides the combination of

alphanumeric characters with arbitrary "attestation information" fingerprint, a voiceprint, and the iris, are contained.

[0011] [the electric device equipped with the photography function of the 2nd this invention] A photography means to change an optical image into image data, and a memory means to memorize the image data from said photography means, A specification means to specify desired image data out of the image data memorized by said memory means, An input means to input the attestation information about the image data specified with said specification means, A distinction means to distinguish the specific color in said picture when displaying the picture based on said image data read from said memory means, When reading the image data specified with said specification means from a memory means and said attestation information is not inputted by said input means Since it has the Image Processing Division means which was made to perform predetermined Image Processing Division so that the circumference containing the portion of said specific color in the picture based on said image data may be displayed unlike the picture based on the original image data [for example, the woman who wishes he does not want for its swimming suit sight to be caught by others] Since the portion and the circumference of a swimming suit will replace and will be displayed on other pictures only about the picture of a swimming suit figure, unless said attestation information is inputted even when scenery and themselves are photoed with the camera if the color of its own swimming suit is beforehand registered as a specific color, Others cannot peruse the picture of the swimming suit figure of the person himself/herself freely using this camera. On the other hand, even if said attestation information is not inputted, when scenery and clothes are worn, it can express as the usual step. In addition, if said attestation information is inputted, all the pictures can be perused.

[0012] Furthermore, if it has a display means to display the picture based on the image data which performed predetermined Image Processing Division by said Image Processing Division means, since the processed picture can be perused immediately, it is desirable.

[0013] Moreover, if it has a discernment means to identify the coincidence/disagreement of said attestation information inputted with said input means, and it is made to perform said predetermined Image Processing Division also when said attestation information of said Image Processing Division means is inharmonious, since it can be coped with when unjust discernment information is inputted, it is desirable.

[0014] Furthermore, when it has an output means to output said image data to which predetermined Image Processing Division was performed by said Image Processing Division means to external processing apparatus, since a picture can be displayed by a big screen with outputting image data, for example to display devices, such as television and a monitor, it is desirable.

[0015] Moreover, since perusing the original picture becomes that said predetermined Image Processing Division is in any of mosaic processing, low resolution processing, substitution processing, shading-off processing, and emboss processing processing impossible, the above-mentioned purpose is attained. In addition, as predetermined

Image Processing Division, color substitution processing in which color data is changed with a predetermined algorithm, the processing which extracts and clips an outline, the processing which sticks a different character from a former picture, an icon, etc., etc. can be considered.

[0016] Furthermore, since it turns out that a visitor cannot peruse a former picture when said display means displays the image data to which said predetermined Image Processing Division was performed and it warns, it is desirable.

[0017] Moreover, if said predetermined Image Processing Division is not performed when said attestation information is in agreement with said discernment means, since only those who get to know attestation information can peruse a former picture, it is desirable.

[0018] Furthermore, make it not give attestation information to the image data which is not specified with said specification means among the image data memorized by said memory means, and [said Image Processing Division means] if said predetermined Image Processing Division is not performed when the image data to which attestation information is not given is read from said memory means -- processing -- it can prevent processing to unnecessary image data, and is desirable in it.

[0019] A photography means by which the image processing system of the 3rd this invention changes an optical image into image data, A memory means to memorize the image data from said photography means, and a specification means to specify desired image data out of the image data memorized by said memory means, The processed data for performing predetermined Image Processing Division so that it may match with the image data specified by said specification means and a part of picture based on said image data may be displayed unlike the picture based on the original image data, While receiving image data from the camera which has a transmitting means to transmit the original image data according to either of two or more transmitting modes, and said camera Are the external processing apparatus which has the Image Processing Division function, and the image processing system ** constituted, and [the transmitting means of said camera] When the 1st transmitting mode is set up, said image data before Image Processing Division, When data required for Image Processing Division is transmitted to said external processing apparatus and the 2nd transmitting mode is set up Even if it receives said image data before Image Processing Division, and data required for Image Processing Division, for example when external processing apparatus is what cannot recognize said discernment information since the image data after Image Processing Division is transmitted to said external processing apparatus [choosing the 2nd transmitting mode in this case] since it cannot judge to what kind of case it should process The image data after Image Processing Division will be transmitted to said external processing apparatus, and said external processing apparatus will carry out [print / a display,] external processing of the picture to which mosaic processing etc. was carried out by that cause. On the other hand when external processing apparatus is what can recognize said discernment information and has the Image Processing Division function A mosaic etc. can be processed in a picture, or it cannot give it, and external processing of a display, a print, etc. can be made to perform after that in said external processing apparatus according to said discernment information by transmitting said image data before Image Processing Division, and

data required for Image Processing Division from said camera.

[0020] Namely, when said 1st transmitting mode is washed, [said external processing apparatus] An input means to input the attestation information about the image data specified with said specification means, When it has a discernment means to identify the coincidence/disagreement of said attestation information inputted with said input means and said attestation information is in agreement After performing Image Processing Division for said image data before Image Processing Division transmitted in said 1st transmitting mode based on data required for Image Processing Division, it is desirable to perform external processing.

[0021] A photography means by which the image processing system of the 4th this invention changes an optical image into image data, A memory means to memorize the image data from said photography means, and a specification means to specify desired image data out of the image data memorized by said memory means, The processed data for performing predetermined Image Processing Division so that it may match with the image data specified by said specification means and a part of picture based on said image data may be displayed unlike the picture based on the original image data, While receiving image data from the camera which has the means of communication which transmits the original image data according to either of two or more transmitting modes, and said camera Are the external processing apparatus which has the Image Processing Division function, and the image processing system ** constituted, and [the means of communication of said camera] [communicating with said external processing apparatus] before transmitting image data to said external processing apparatus If it judges that it has the attestation processing capability which can perform predetermined Image Processing Division so that a part of picture based on said image data may be displayed unlike the picture based on the original image data when said attestation information is not inputted to said external processing apparatus, said image data before Image Processing Division, Although data required for Image Processing Division is transmitted to said external processing apparatus Since the image data after Image Processing Division will be transmitted to said external processing apparatus if it judges that said external processing apparatus does not have said attestation processing capability In order that the means of communication of a camera may perform this automatically, without a user's judging whether external processing apparatus has said attestation function unlike the 3rd invention, and changing a mode, it is a more user-friendly system.

[0022]

[Embodiment of the Invention] This invention is hereafter explained in detail with reference to Drawings. Drawing 1 is the block diagram showing the composition of the digital still camera which is the example of the electric device concerning the form of this operation. [CCD2 which are the photography means by which image formation was carried out to the acceptance surface in the optical image with the taking lens 1] in drawing 1 Performing what is called photoelectrical conversion that outputs the analog signal corresponding to an optical image, the A/D conversion circuit 3 changes and outputs the analog signal inputted from CCD2 to a digital signal. In addition, in the A/D conversion circuit 3 concerning the form of this operation, it shall be changed into the digital signal of a big value, so that the intensity of the light which entered into the photoelectrical conversion means 2 is high. The image data obtained through

this A/D conversion circuit 3 is once memorized by the memory 4 for pictures for momentary memory buffers, such as a flash memory.

[0023] Various kinds of Image Processing Division is performed by MPU5 which are a processing means, and, finally the image data memorized by the memory 4 for pictures is memorized by the nonvolatile memory 6 (memory means), such as a memory card connected to MPU5. In addition, MPU5 receive electric power supplies from the power supplies 7, such as an internal battery, and they can communicate now with the external cellular phone T etc. through the interfacing unit 8 which is an output means. Moreover, although detailed explanation is not given, it connects directly to the monitor of TV or a personal computer, a printer, etc. the image data photoed with this digital camera in short -- what kind of mode -- be -- if it is renewable apparatus, it has interface equipment which can connect anythings. Moreover, MPU5 start operation by ON operation of the electric power switch 16, and they take a photograph by receiving the release signal from the release button 10, and driving the shutter equipment which is not illustrated. Furthermore, MPU5 carry out drive control of the image display equipment 9, such as an LCD monitor, and they display a picture on the memory 4 for pictures based on the image data memorized temporarily based on the image data memorized by the nonvolatile memory 6 for a through display. In addition, image display equipment 9 is desirable in it being a touch-sensitive display, and hopes that character data etc. can be inputted.

[0024] Moreover, MPU5 can acquire the information about photographic subject luminosity based on the picture signal from CCD2, can operate an actuator 12, can be extracted, and can control the amount of opening of 11 (namely, light exposure). Furthermore, MPU5 can control now the luminescence timing of the illuminating radiation irradiated from stroboscope equipment 13. Moreover, MPU5 can drive the signal-processing part 15 and they can make predetermined Image Processing Division perform now. In addition, MPU5 set up processing mode according to operation of the processing mode button 17.

[0025] Next, operation of the form of this operation is explained. Drawing 2 is the figure showing the example of the picture displayed on image display equipment 9. [that a photography person pushes the release button 10 in the usual photography here] Since the obtained image data is memorized by the nonvolatile memory 6, MPU5 read image data from the nonvolatile memory 6, and as shown in drawing 2 (a), they display a photographic subject picture, because a user performs predetermined display operation.

[0026] Here, if a photography person operates the processing mode button 17 as a specification means before he possesses the password beforehand registered into MPU5 and pushes the release button 10, MPU5 will set up processing mode.

[0027] In addition, a photography **** case performs a setup indicated below beforehand in processing mode. In initial setting, the picture shown in drawing 4 is displayed on the display screen of image display equipment 9. In this screen, a mosaic, a low resolution, substitution, a shading off, one selection of the embossing, and selection of a processing field (size ****) can be performed as processing for hiding the password (attestation information) which consists of arbitrary alphanumeric

characters etc., and the original picture. The form of this operation explains mosaic processing as an example of Image Processing Division.

[0028] In addition, to every image data, one common password is sufficient as a password, two or more owners are carried out, and you may enable it to set up a different password for every photography picture. Moreover, when this password is photoed in processing mode, it is attached and memorized by image data and correspondence.

[0029] While a user looks at the default image and through picture which were displayed on the display screen by this initial setting Arbitrary enclosure frames are displayed on up to a screen, and it is made to move all around and you may make it make it specify a field to cover a mosaic as arbitrary positions on a screen with a stay bull, and specify frame size and a position using the cross key which is not illustrated. In addition, arbitrary setup is possible for every photography piece, and ***** cannot be overemphasized. The information registered on this setting registration screen is suitably read with image data, when it is registered as "mosaic information", and memory memory is carried out for each [which was photoed] image data of every and "it outputs" like the after-mentioned. ["display" and]

[0030] As mentioned above, when this processing mode is set up, the image data obtained by the photography just behind that is the form matched with a predetermined password (key information) and predetermined mosaic information, and is memorized by the nonvolatile memory 6. This means that specification of image data was performed by operation of the processing mode button 17 which is a specification means. Drawing 5 is the figure showing the constructional example of the data memorized by the nonvolatile memory 6. From the password information on a data head to an output form (specification whether the synthetic image data after processing is outputted or to output original image data and data required for processing) is data determined by initial setting.

[0031] If processing mode takes a photograph once in principle, it will be canceled, but you may make it make processing mode continue. Also when memorizing a predetermined password and predetermined processing information to the header of image data and you try to make it read and display on personal computer PC with an another digital still camera (external processing apparatus) etc., the processing can be performed as it is effective.

[0032] [in this case, external processing apparatus, such as the personal computer PC connected with a digital still camera,] The following processings can be performed, when it is constituted so that the mosaic information mentioned above can be distinguished, reading image data, and these information is distinguished and the same mosaic processing gives. Namely, by outputting a password, and original image data and data required for processing to external processing apparatus through the interface means 8 [a personal computer PC] The entered password is identified, if it judges that a password is just, original image data will be displayed, and if it judges that a password is inaccurate, the image data which processed the mosaic etc. can be displayed on a display.

[0033] That is, when outputting image data to the external processing apparatus connected with a digital still camera here, [image data] If it is external processing apparatus, such as the personal computer PC which can identify a password and can perform Image Processing Division with outputting the password and original image data corresponding to image data, and data required for processing, same mosaic processing can be performed without making a part of image data change. However, since he is trying to send the image data changed by processing a mosaic etc. when outputting to external processing apparatus, such as TV which cannot distinguish mosaic information, unless a password is entered, the picture displayed becomes only a thing after processing.

[0034] And when carrying out interface ** and outputting image data above, [in an initial-setting screen] (1) A user may enable it to choose one which processes mosaic processing of a part of (2) image data which adds and sends a password and mosaic information as incidental information with image data (1st communication mode), and transmits (2nd communication mode) of modes.

[0035] However, when the external processing apparatus connected to a digital still camera is identifiable in these passwords etc. and a password etc. is in agreement, it is made not to perform Image Processing Division, such as mosaic processing. Although it may be difficult for a user to distinguish whether it is external processing apparatus which has what is called an attestation processing capability Since mosaic processing may not be made by the external processing apparatus side by it if image data is carelessly sent to the external processing apparatus which cannot identify a password etc., as it, the 2nd communication mode may be made to be set as a default.

[0036] As a modification of the form of this operation, it is that MPU5 communicate with CPU of external processing apparatus. When it is judged that it can be judged whether a password can be identified and Image Processing Division can be performed (does it have an attestation processing capability or not?), and a password can be identified, and Image Processing Division can be performed It transmits in the 1st communication mode, and when it is judged that a password cannot be identified or Image Processing Division cannot be performed, you may be made to transmit in the 2nd communication mode.

[0037] If those who borrowed perform image display operation when this digital still camera is lent to persons other than the photography person, MPU5 will read image data from the nonvolatile memory 6, and they will make image display preparations. Although it matches with the read image data here and mosaic information is memorized, if it judges that there is no input of a proper password (attestation information is not in agreement), [MPU5] By the signal-processing part 15, mosaic processing is performed to the read image data, and image display equipment 9 performs image display based on the image data after processing (drawing 2 (b)). Since the mosaic picture MG will be displayed on middle of the screen based on the mosaic information registered on the above-mentioned initial-setting screen according to this image display, and no persons other than those who get to know a password can peruse the whole picture, a photography person's privacy is protected. In addition, as a picture displayed, what is called a sum nail picture is also contained.

[0038] On the other hand when it is going to peruse its picture photoed in processing mode after a digital still camera is returned In a user entering a predetermined password from the screen of image display equipment 9, [MPU5] A picture is immediately displayed with image display equipment 9, without comparing with the password memorized by the nonvolatile memory 6 by matching with image data, and processing the image data read from the nonvolatile memory 6 in the signal-processing part 15, in agreeing (attestation information is in agreement) (drawing 2 (a)). Therefore, a clear picture without mosaic processing can be perused. In addition, in order to peruse a picture without a mosaic, it is necessary to enter a password for every image data but, and from a portion without a mosaic, as shown in drawing 2 (b), since it is applied to a part of picture, if a mosaic is a photography person, it can judge what kind of picture it is. Therefore, in order to search a specific picture, there is no necessity for canceling the mosaic of a picture of one edge using a password etc. Since it is well known about mosaic processing, it does not indicate for details below. Moreover, about the field of a mosaic, and grid fineness, a user can set up arbitrarily.

[0039] By the way, with the form of operation mentioned above, it may be said to perform mosaic processing in the picture displayed that processing mode must be set up before photography. On the other hand, after photography, when a setup in processing mode has been forgotten before photography, after the nonvolatile memory 6 memorizes as image data, acquiring the same effect by making each image data match and memorize a password and mosaic information is also considered. This method is described below.

[0040] Image data to perform mosaic processing to is read from a memory, and it is made to display on a monitor. Next, picture edit mode is called from menu panel. The kind of processing to edit into to a picture is chosen and called first here. Here, it is considered as mosaic processing. Next, a field is specified. At this time, a frame enclosure is displayed on a monitor like the time of initial setting, and the size and position of a field can be set up. Then, a password is registered. After a series of registration processings are completed by picture edit mode above, correspondence ***** memory of a password and the mosaic information is carried out at the image data after photography as well as the image data photoed in processing mode.

[0041] However, since image data to perform mosaic processing to must be specified anyway as a user and time and effort is taken, simpler operation is also desired. Then, he is trying to determine automatically whether perform mosaic processing with the form of the operation described below according to the photographic subject photoed.

[0042] For example, although a photograph is sometimes taken well in the sea, Poole, etc., a woman etc. may say the picture of her swimming suit figure that it is shameful that others see. Then, the processing prevented from perusing only the picture of the user who wore the swimming suit in such a case is desirable. A user can make MPU5 memorize the color of the swimming suit by photoing a self swimming suit with a digital still camera in a predetermined mode with the form of this operation. If in charge of memory of the color of a swimming suit, the color which performed color temperature amendment etc. may be memorized in consideration of photography on the outdoors, an indoor pool etc. may be taken into consideration and the color of a certain range in the degree space of color may be memorized.

[0043] The user can take a photograph arbitrarily after that, without caring about whether you are the photographic subject which should do mosaic processing. Here, since it differs from the color of the memorized swimming suit when persons other than scenery or a user are photoed, MPU5 which are the distinction means which distinguished this do not perform mosaic processing to image data, but they can peruse a picture arbitrarily about such a photographic subject's picture. When photography is performed by this digital still camera by using as a photographic subject the user who wore the swimming suit, on the other hand, [MPU5] Since Image Processing Division is made to perform in the signal-processing part 15 so that a color may be extracted and mosaic processing may be performed from the photoed image data to the field (here a swimming suit and its circumference) corresponding to the color, the **** picture shown in drawing 3 will be displayed. Thereby, even if a screen top user is in which position, mosaic processing is appropriately performed only to a user's (here middle of the screen of drawing 3) swimming suit, and protection of privacy can be aimed at. This mosaic processing can be canceled according to the input of the password mentioned above etc.

[0044] As mentioned above, although this invention has been explained with reference to the form of operation, this invention is limited to the form of the above-mentioned implementation, and should not be interpreted, but, of course, change and improvement are possible suitably. For example, the predetermined processing to image data may be a mode not only replaced with mosaic processing but memorized another picture, and when displaying the picture by which mosaic processing was carried out, "mosaic processing of it is carried out. It can peruse by the input of a password. You may display a warning message, such as ". Moreover, the image data by which mosaic processing was carried out by not performing mosaic processing just before a screen display, but carrying out immediately after photography, The both sides of image data which are not processed are remembered and it displays based on the image data by which mosaic processing was usually carried out, and it restricts to the time when the password was entered, and you may make it display a picture based on the image data which is not processed. Furthermore, a mosaic may be made to be canceled when operation which the input of a password may be inputted through an interface 8 from the cellular phone T, or is different not only from a password but normal operation is carried out.

[0045]

[Effect of the Invention] According to this invention, the camera which forbids the display of a picture which a user does not desire can be offered.

[Brief Description of the Drawings]

[Drawing 1] It is the figure showing the outline composition of the digital still camera concerning the form of this operation.

[Drawing 2] It is the example of the picture displayed on the screen of the image display equipment of the digital still camera concerning the form of this operation.

[Drawing 3] It is another example of the picture displayed on the screen of the image display equipment of the digital still camera concerning the form of this operation.

[Drawing 4] It is the figure showing the initial-setting screen of image display equipment.

[Drawing 5] It is the figure showing the constructional example of the data memorized by nonvolatile memory.

[Description of Notations] 1 Taking Lens 2 CCD3 A/D conversion circuit 4 The memory 5 for pictures MPU6 Nonvolatile memory 7 A power supply (battery) 8 Interfacing unit 9 Image display equipment (LCD) 10 Release button 11 Iris diaphragm 12 Actuator 13 Stroboscope 15 Signal-processing part 16 Electric power switch 17 Processing mode switch

[Translation done.]